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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,252	11/21/2001	Leonid B. Galperin	106172	2148

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EXAMINER

ARNOLD JR, JAMES

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/20/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

AS3

Office Action Summary

Application No.

09/990,252

Applicant(s)

GALPERIN ET AL.

Examiner

James Arnold, Jr.

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 8-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-7, drawn to a process for catalyst regeneration, classified in class 502, subclass 38.
- II. Claim 8-21, drawn to a hydrocarbon conversion process, classified in class 208, subclass 134.

The inventions are distinct, each from the other because of the following reasons:

Inventions of Group I and Group II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the invention of Group I involves regeneration of a catalyst utilizing ozone and the invention of Group II involves a hydrocarbon conversion process which can be conducted with or without the use of ozone.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Michael A. Moore on March 10, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-7. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claim 5 is objected to because of the following informalities: The word "of" needs to be inserted between the words "contacting" and "the" in the first line of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyle (USPN 5,183,789) in view of Innes (USPN 5,883,031).

The Boyle reference discloses a process for regenerating a hydrocarbon conversion catalyst comprising contacting the catalyst with ozone. See Column 8, lines 33-37. The reference discloses a process characterized in that the catalyst has coke deposited thereon, and the process comprises removing at least a portion of the coke from the catalyst. See Column 8, lines 33-45. The reference discloses a temperature range from about 60 C to about 120 C. See Column 8, lines 40. The reference discloses that the catalyst may contain a zeolite. See Column 4, lines 46-49. The reference discloses a process further characterized in that the contacting occurs at a partial pressure of ozone of up to about 101.3 kPa(g). See column 8, lines 55-60. The reference discloses a process further characterized in that contacting the catalyst with ozone comprises contacting the catalyst with an ozone-containing gas having a concentration of ozone of from about 1 percent to about 50 percent. See Column 8, lines 38-39. The reference discloses a process wherein the regeneration catalyst contains a metal selected from the group consisting of metals in Group VI A, Group VII A, Group VIII A, and Group IV B. See column 8, lines 49-54. The reference discloses a process comprising contacting the catalyst with a gaseous stream comprising ozone and at least one of air and oxygen and containing from about 1 to about 50 percent ozone, at conditions comprising a temperature of from about 60 to about 120 C and gas hourly space velocity of up to about 10,000 hr⁻¹, the conditions being sufficient to burn at least a portion of the coke on the catalyst. See Column 8, lines 16-60.

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The reference does not disclose the use of zeolite L. The reference does not disclose the entire temperature range of from about 20 C to about 250 C. The reference does not disclose the entire ozone concentration range of from about 0.1 to about 5.0 mol%.

The Innes reference discloses the use of a zeolite L containing conversion catalyst. See Column 20, lines 30-35.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize zeolite L as a component of a conversion catalyst because the Boyle reference states that a zeolite support can be employed with the catalyst. See Column 4, lines 46-50. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the entire temperature range of from about 20 C to about 250 C because the Boyle reference disclose a temperature range of from about 60 C to about 120 C, the range disclosed by Boyle overlaps the claimed range, and it would be appropriate to extend the ranges if necessary to obtain positive results. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize entire ozone concentration range of from about 0.1 to about 5.0 mol% because the Boyle reference discloses the use of ozone in the catalytic regeneration process, the range disclosed by Boyle overlaps the claimed range, and it would be appropriate to extend the ranges if necessary to obtain positive results.

Conclusion

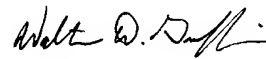
Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Arnold, Jr. whose telephone number is 703-305-5308. The examiner can normally be reached on Monday-Thursday 8:30 AM-6:00 PM; Fridays from 8:30 AM- 5:00 PM with alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

ja
March 17, 2003



Walter D. Griffin
Primary Examiner